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DEPARTMENT OF THE INTERIOR

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QUESTIONS AND ANSWERS ON FIRST-AID TRAINING

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BY

J. J. FORBES AND M. J. ANKENY

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QUESTIONS AND ANSWERS ON FIRST-AID TRAINING [1]

By J. J. Forbes[2] and M. J. Ankeny[3]

INTRODUCTION

Several sets of questions and answers on the fundamentals of first aid to the injured, based on the Manual of First-Aid Instruction of the United States Bureau of Mines, are now in use in various parts of the United States. Persons experienced in first-aid instruction believe that a standardized set of questions and answers will assist materially in preparing men for examinations conducted by the Bureau for first-aid certificates. Inquiries as to whether a set of standardized questions and answers is available have been made frequently by those training men for the Bureau of Mines examination for certificates.

It is believed that the following list of 171 questions and answers compiled directly from the manual will be useful to company officials and employees who are engaged in cooperative first-aid training to qualify for Bureau of Mines certificates. The list may also be used by field men of the Bureau in training instructors preparatory to a cooperative training campaign and in examining classes or individuals for first-aid certificates. The page references in parentheses refer to pages in the Manual of First-Aid Instruction.

QUESTIONS AND ANSWERS ON FIRST-AID TRAINING

Anatomy

1. Q. What proportion of the body, by weight, is composed of blood?
   A. About one thirteenth of the weight of the body is blood. (P. 15.)

2. Q. What is the skeleton?
   A. The skeleton is the framework of the body. (P. 15.)

3. Q. What is the composition of the skeleton?
   A. The skeleton is composed of a hard substance called bone. (P. 15.)

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4. Q. What is the purpose of the skeleton?
   A. The skeleton supports and carries the soft parts, protects the vital organs from injury, and gives attachment to the muscles. (P. 15.)

5. Q. Into what three parts is the body divided?
   A. The body is divided into the head, trunk, and extremities. (P. 15.)

6. Q. What is the cranium?
   A. The cranium is a bony case which encloses and protects the brain. (P. 15.)

7. Q. What divides the trunk into two parts?
   A. The trunk is divided into two parts by a muscular partition called the diaphragm. (P. 15.)

8. Q. What organs are contained in the upper portion of the trunk?
   A. The gullet, heart, lungs, and some large blood vessels. (P. 15.)

9. Q. What organs are contained in the lower portion of the trunk?
   A. The stomach, liver, kidneys, bladder, and intestines. (P. 15.)

10. Q. What are the upper and lower portions of the trunk commonly called?
    A. The upper and lower portions of the trunk are commonly called the chest and abdomen, respectively. (P. 15.)

11. Q. What bones form the trunk?
    A. The spinal column or vertebrae, ribs, pelvis, coccyx, and sternum form the trunk. (P. 17.)

12. Q. How many ribs are there?
    A. There are 24 ribs, 12 on each side. (P. 17.)

13. Q. What is the spinal column?
    A. The spinal column, made up of a number of smaller bones called vertebrae, extends from the base of the cranium to the pelvic bone and forms a standard for attachment of the ribs. (P. 17.)

14. Q. What is the function of the spinal column?
    A. Its function is to give rigidity to the body and to form a canal or protective covering for the chief nerve fibers of the body, the spinal cord, (P. 17.)

15. Q. What is the pelvic bone?
    A. The pelvic bone is a flat dish-shaped bone which gives a point of attachment for the lower extremities and supports the bladder and bowels. (P. 17.)

16. Q. What is the danger of a fractured pelvis?
A. The danger of a fractured pelvis lies not only in the broken bone but also in the fact that the bladder which lies just behind the bones that make up the front wall of the pelvis may become punctured through movement of the patient. (P. 116.)

17. Q. Of what do the extremities consist?
A. The upper extremities consist of the shoulder joint, arm, forearm, wrist, and hand; the lower extremities consist of the thigh, leg, ankle, and foot. (P. 17.)

18. Q. How many bones are in each upper extremity, and what are they?
A. Each upper extremity has 1 collar bone, 1 shoulder blade, 1 arm bone, 2 forearm bones, 8 wrist bones, 5 hand bones, and 14 finger bones. (P. 17.)

19. Q. How many bones are in each lower extremity, and what are they?
A. Each lower extremity has 1 thigh bone, 2 leg bones, 1 kneecap, 7 ankle bones, 5 foot bones, and 14 toe bones. (P. 17.)

20. Q. What is a joint?
A. Where two or more bones come together they form a joint. (P. 17.)

21. Q. How are the bones held in position at the joints?
A. The bones are held in position by bands called ligaments. (P. 17.)

22. Q. What are muscles, and what is their function?
A. Muscles give shape to the body, and by lengthening or shortening they cause movement of the parts to which they are attached. (P. 18.)

23. Q. What are tendons, and what is their function?
A. Tendons are strong, white, fibrous cords that attach most muscles to bone. (P. 18.)

24. Q. How is nourishment carried to the different parts of the body?
A. The blood carries nourishment to the different parts of the body by means of closed tubes called blood vessels. (P. 18.)

25. Q. What other function does the blood perform?
A. The blood furnishes heat and oxygen to all parts of the body and carries waste matter from all the tissues to the lungs, kidneys, skin, and bowels, whose work it is to separate the wastes from the blood and expel them from the body. (P. 18.)

26. Q. What keeps the blood stream in motion?
A. The blood is kept moving by the pumplike action of the heart. (P. 18.)

27. Q. What is the heart, and where is it located?
A. The heart is a muscular organ about the size of a man's fist, situated in the chest behind and to the left of the breastbone. (P. 18.)

28. Q. Explain the action of the heart?
A. The heart acts like a double-action pump, one side forcing the fresh blood through the body and the other side forcing the impure blood to the lungs. (P. 20.)

29. Q. What is the rate of speed at which the heart operates normally?
A. The heart contracts or beats about 72 times per minute. (P. 20.)

30. Q. What are the blood vessels?
A. The blood vessels are the arteries, veins, and capillaries through which the blood is conveyed to all parts of the body. (P. 20.)

31. Q. What is the function of the arteries?
A. The arteries carry the pure blood from the heart. They divide and subdivide until they become very small and are known as capillaries. (P. 20.)

32. Q. What is the function of the veins?
A. The capillaries join, finally forming veins through which the impure blood is returned to the heart. (P. 20.)

33. Q. Where may the pulse beat rate be examined conveniently?
A. The pulse beat can be felt at the wrist or temple. (P. 20.)

34. Q. What is meant by respiration?
A. Respiration means breathing - inhaling pure air and driving out (exhaling) the impurities that the lungs have separated from the blood. (P. 20.)

35. Q. What are the lungs?
A. The lungs are two cone-shaped bodies which are soft, spongy, and elastic. The outside of each lung is covered by a closed sac called the pleura. (P. 21.)

36. Q. How is the blood purified in the lungs?
A. The lungs contain very delicate capillaries with blood on the inside and air on the outside, so that gases in the air and blood are easily exchanged. (P. 21.)

37. Q. What is the normal rate of breathing?
A. In healthy persons breathing occurs about 15 to 20 times per minute. (P. 21.)

38. Q. What duty is performed by the nervous system?
A. The nervous system keeps the different parts of the body in touch with each other, and it controls and regulates the functions of the organs. (P. 22.)

39. Q. Of what does the nervous system consist?
A. The nervous system consists of nerves and nerve cells or centers. (P. 22.

40. Q. Describe the nerves?
A. The nerves are round, white cords consisting of nerve fibers which form connections between the nerve centers and the ends of the nerves. (P. 22.)

41. Q. Why does the nervous system play an important part in injuries?
A. The nerve centers are always affected by serious injury and a condition of shock generally results. (P. 22.)

Shock

42. Q. What is shock?
A. Shock is a sudden vital depression of the nervous system. (P. 23.)

43. Q. What causes shock?
A. Severe pain, loss of blood, fright, anger, surgical operations, seeing one's own injury or injuries of others, and accidents by electricity or gas may cause shock. (P. 23.)

44. Q. What are the symptoms of shock? (P. 23.)
A. 1. The face is pale and has an anxious expression.
2. The eyelids droop, the eyes are dull, and the pupils large.
3. The skin is clammy and covered with cold sweat.
4. The patient is somewhat stupid and takes little interest in things about him.
5. He may suffer from nausea and vomiting.
6. He may answer questions slowly.
7. He may be partly or totally unconscious.
8. Breathing is shallow and feeble.
9. The pulse (heart action) is rapid and weak and may not be felt at the wrist.

45. Q. What is the treatment for shock? (P. 23.)
A. 1. Place the person in a comfortable position with head low.
2. Remove all foreign substances from the mouth.
3. Wrap him in warm blankets, clothing, or brattice cloth.
4. Give a liquid stimulant if patient is conscious.
5. Allow patient to inhale fumes of aromatic spirits of ammonia if he is unconscious. First-aid man should test strength of stimulant before applying.
6. Place heat applications around patient under covering.
7. Rub legs and arms toward body under covering.
8. Place a small heat application over heart.

46. Q. Under what conditions would it be improper to place the patient's head low?
A. When there is a fractured skull or severe hemorrhage from the head, also in cases of sunstroke and apoplexy. (P. 23.)

47. Q. Under what conditions would it be improper to give a stimulant to a patient who is suffering from shock?
A. If the person has a fractured skull, sunstroke, apoplexy, or severe bleeding from the head, do not give a stimulant. If the patient has internal bleeding or arterial bleeding, do not give a stimulant until the hemorrhage has been checked. (P. 23.)

48. Q. What may be used for heat applications?
A. Heat pads, hot-water bottles, hot bricks, stones, etc., may be used for heat applications. (P. 24.)

49. Q. What precaution must be taken with heat applications to avoid burning patient?
A. Wrap heat applications in cloth or paper and test before applying. (P. 24.)

50. Q. What substance or material may be used for a liquid stimulant?
A. Aromatic spirits of ammonia (a teaspoonful in a half glass of water), hot coffee, hot tea, or hot water. (P. 24.)

51. Q. How should a liquid stimulant be administered?
A. Raise person's head and allow him to take liquid in sips from a glass. (P. 24.)

52. Q. Under what condition should a liquid stimulant be given?
A. A liquid stimulant should be given when the patient is conscious. (P. 24.)

53. Q. How may stimulant be given if patient is unconscious?
A. Give stimulant to an unconscious person by pouring aromatic spirits of ammonia on a cloth and permitting the patient to inhale the ammonia fumes. The strength of the fumes should be tested before they are applied to the patient. (P. 24.)

54. Q. How long should treatment for shock continue?
A. Treatment for shock should be started immediately after the bleeding has been checked and continued until the patient has been turned over to the doctor. (P. 24.)

Artificial Respiration

Electric Shock, Gas Poisoning, Suffocation, and Drowning

55. Q. How does electricity cause shock?
A. Electricity causes shock by paralyzing the nerve centers that control breathing or by stopping the regular beat of the heart. (P. 24.)

56. Q. What are the symptoms of electric shock? (P. 24.)
A. 1. Sudden loss of consciousness.
2. Absence of respiration which, if present, is slight and cannot be observed.

3. Weak pulse or absence of pulse.
4. Burns at the point of contact with the conductor of electricity.

57. Q. What precautions must be taken in rescuing a person from contact with a live wire? (P. 24.)
A. 1. If a switch is near, turn off the current, but lose no time in looking for one.
2. Short circuit or ground the current on both sides of the victim by means of a drill, auger, bar, or piece of wire, taking care to release hold of the instrument before it touches the live wire.
3. Insulate yourself from the ground and remove the person from the wire. Protect yourself by using dry, nonconducting material such as clothing, dry wood, or thick paper; also, protect the hand you use to grasp the patient by your cap, coat, or any dry nonconducting material.
4. Another way is to take your belt, handkerchief, coat, a piece of dry rope, or similar material and loop it over the victim's head or foot and pull him off the wire.
5. If an ax is near at hand, use it to cut the wire on both sides of the victim, but first make certain that the handle is dry.

58. Q. What explosive gas is commonly found in coal mines?
A. Methane gas is found in many coal mines. (P. 26.)

59. Q. In what ways is methane gas dangerous?
A. If present in sufficient quantities, it will cause suffocation (lack of oxygen). It may explode and burn persons within the range of the explosion; in burning or exploding, poisonous carbon monoxide gas is often generated. (P. 26.)

60. Q. What are some of the poisonous gasses formed in mines?
A. Sulphur dioxide, oxides of nitrogen, ammonia, hydrogen sulphide, and carbon monoxide. (P. 27.)

61. Q. Is carbon dioxide gas poisonous or dangerous?
A. Carbon dioxide gas is not poisonous but may cause death by suffocation if present in sufficient quantity in the air breathed. (P. 26.)

62. Q. What treatment should be given a drowning person? (P. 31.)
A. 1. Always rescue the person from the water as quickly as possible.
2. Lock your hands under the patient's stomach and lift him several times to drain the water out of his air passages and stomach.
3. Lose no time in starting artificial respiration.

63. Q. What treatment should be given to a person suffering from suffocation or asphyxiation?
A. Remove the victim to pure air and start artificial respiration without delay. (P. 31.)

64. Q. What treatment should be given a person suffering from electric shock?
A. Remove the person from contact with the electric conductor and start artificial respiration immediately. (P. 31.)

65. Q. What is artificial respiration?
A. Artificial respiration is the act of causing a person to breathe artificially by alternately compressing the walls of the chest to force the air out of the lungs and allowing the walls of the chest to expand to draw fresh air into the lungs.

66. Q. When should artificial respiration be started?
A. As quickly as possible after the accident has occurred. (P. 32.)

67. Q. How long should artificial respiration be continued?
A. Until breathing is restored or for at least 4 hours. (P. 32.)

68. Q. What precautions must be taken before starting artificial respiration?(P.32)
A. 1. Remove all foreign bodies from the patient's mouth.
2. Loosen tight clothing at the neck, chest, and waist.
3. See that the tongue is forward.

69. Q. What additional treatment would you give?
A. The regular treatment for shock. (P. 32.)

70. Q. How many times per minute would you cause the patient to breathe in giving artificial respiration?
A. The patient should be made to breathe 12 to 15 times per minute. (P. 35.)

71. Q. What are the commonly used methods of artificial respiration?
A. The Sylvester method and the Schaefer or prone-pressure method. (P. 33.)

72. Q. Which method is preferable and why?
A. The prone-pressure method is preferable because it is simpler and easier to perform. (P. 33.)

73. Q. Demonstrate the Sylvester method of artificial respiration, and show how to change operators without breaking rhythm?
A. (Each member of class demonstrates.) (P. 36.)

74. Q. Demonstrate the prone-pressure method of artificial respiration, and show how to change operators without breaking rhythm?
A. (Each member of class demonstrates.) (P. 33.)

Hemorrhage or Bleeding

75. Q. Give a definition of hemorrhage?
A. Hemorrhage is the flow of blood from an artery, vein, or capillary. (P.46

76. Q. What are the symptoms of arterial bleeding?
A. Bright red blood spurting from a wound indicates that an artery has been cut. (P. 47.)

77. Q. What are the symptoms of venous bleeding?
A. Dark red blood flowing in a steady stream indicates venous bleeding. (P. 47.)

78. Q. What are the symptoms of capillary bleeding?
A. If the blood is red and oozes from the wound it is from capillaries. (P. 47.)

79. Q. Name the methods of controlling bleeding? (P. 47.)
A. 1. Digital pressure (or placing the finger or fingers) on pressure points.
2. Tourniquet applied on pressure points.
3. Direct pressure by means of a sterile bandage applied to the wound.
4. Elevation of the injured portion.
5. Cold application.

80. Q. How would you stop the flow of blood from a wound with capillary bleeding?
A. Apply a sterile bandage compress directly over the wound. (P. 47.)

81. Q. How would you stop the flow of blood from a wound with venous bleeding?
A. Usually bleeding from a vein can be checked by applying a large sterile bandage compress directly over the wound. If this fails, the side of the wound away from the heart should be compressed. (P. 47.)

82. Q. How would you check the flow of blood from a wound with arterial bleeding?
A. When an artery is cut, temporary digital (finger) pressure should be applied on a pressure point between the wound and the heart, after which a tourniquet should be applied on the pressure point. (P. 47.)

83. Q. Why must digital pressure be applied before the tourniquet ?
A. Digital pressure is applied before the tourniquet so that no unnecessary time will be lost in checking the flow of blood. (P. 47.)

84. Q. What is meant by pressure points, and how many are there?
A. Pressure points are places on the surface of the body where pressure can be applied conveniently on the large arteries to stop the flow of blood. There are 11 pressure points on each side of the body - 22 in all. (Fig. 12, P. 48.)

85. Q. What is a tourniquet?
A. A tourniquet is a device used to apply and hold pressure on a pressure point. (Fig. 11, P. 46.)

86. Q. How long should a tourniquet remain tight over a pressure point?
A. Not more than 20 minutes, after which the tourniquet should be loosened for several seconds and then retightened if bleeding continues. (P. 45.)

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87. Q. Indicate the following pressure points:
1. Wound of scalp? (Fig. 13, P. 49.)
2. Wound of face or nose? (Fig. 13, P. 49.)
3. Wound of armpit or arm torn from body? (Fig. 12, P. 48.)
4. Wound of arm? (Fig. 14, P. 49.)
5. Wound of forearm? (Fig. 14, P. 49.)
6. Wound of hand? (Fig. 14, P. 49.)
7. Wound of groin? (Fig. 15, P. 50.)
8. Wound of thigh? (Fig. 15, P. 50.)
9. Wound of leg? (Fig. 15, P. 50.)

A. (Each member of class demonstrates.)

88. Q. What are the symptoms of internal hemorrhage?
A. The symptoms of internal hemorrhage are faintness, cold skin, pale face, dilated pupils, thirst, feeble and irregular breathing, sighing, clouded vision, weakness, rapid pulse, dizziness, and later loss of consciousness. (P. 52.)

89. Q. What is the treatment for internal hemorrhage?
A. Lay the patient down with his head lower than his body, and apply ice or cold cloths to the body at the point from which the bleeding seems to come. Do not give stimulants unless absolutely necessary, but ice water or cold water may be given slowly if the patient is conscious. (P. 52.)

90. Q. Why is arterial bleeding dangerous?
A. Arterial bleeding, if allowed to go unchecked for a short time, may cause death. Loss of blood also complicates the condition of shock.

91. Q. What is nature's method of stopping bleeding?
A. While blood is flowing through the body it is fluid, but as soon as a blood vessel is severed the blood flowing out thickens or clots and tends to stop flowing. (P. 47.)

Wounds

92. Q. What is a wound?
A. A wound may be defined as a break in the skin. (P. 54.)

93. Q. Name three kinds of wounds?
A. Three kinds of wounds are the incised, lacerated, and punctured. (P. 54.

94. Q. What is an incised wound?
A. An incised wound is one in which the edges are divided smoothly without bruising or tearing; it is produced by some sharp cutting instrument such as a knife, piece of glass, or sharp piece of coal or rock. (P. 54.)

95. Q. What is a lacerated wound?
A. A lacerated wound is one in which the edges are ragged as a result of tearing the skin and tissues by blunt instruments or machinery. (P. 54.)

96. Q. What is a punctured wound?
A. Punctured wounds may be produced by pointed instruments such as needles, splinters, nails, or pieces of wire. They are usually small, but they may be very deep. (P. 54.)

97. Q. What precautions must the first-aid man take in treating wounds? (P. 55.)
A. 1. If there is bleeding from an artery, check the flow of blood and apply a tourniquet.
2. Do not touch the wound with your hand, clothing, or any instrument, and do not pour water or drugs into or on it.
3. Make all dressings wide enough to cover the wound completely.
4. Apply a sterile bandage compress over the wound as quickly as possible and tie the knot over the compress.

98. Q. Under what conditions would the knot be tied in some other place than over the compress?
A. In compound fractures and in wounds of the eye, the knot should be tied at some point away from the compress. (P. 55.)

99. Q. What bandages are used in first-aid work?
A. The compress and triangular or cravat bandages. (P. 39.)

100. Q. In general, how tight should bandages be applied?
A. Bandages should be applied firmly but never tightly. (P. 56.)

101. Q. How would you dress the following injuries?
1. Wound and bleeding of scalp, temple, ear, or face. (Fig. 17, P.57.)
2. Wound and bleeding of forehead. (Fig. 18, P. 58.)
3. Wound and bleeding of nose. (Fig. 21, P. 61.)
4. Injuries of the eye. (Fig. 19, P. 60.)
5. Wound and bleeding of chin. (Fig. 22, P. 61.)
6. Wound and bleeding of neck or throat. (Fig. 23, P. 62.)
7. Wound and bleeding of shoulder. (Fig. 24, P. 69.)
8. Wound and bleeding of armpit. (Fig. 25, P. 65.)
9. Arm torn from body. (P. 66.)
10. Dressing for amputated arm. (P. 66.)
11. Wound and bleeding of upper arm. (Fig. 26, P. 68.)
12. Wound and bleeding of elbow. (Fig. 26, P. 68.)
13. Wound and bleeding of forearm. (Fig. 26, P. 68.)
14. Wound and bleeding of wrist. (P. 69.)
15. Wound and bleeding of palm of hand. (Fig. 27, P. 70.)
16. Wound and bleeding of back of hand. (Fig. 28, P. 72.)
17. Wound and bleeding between shoulders. (Fig. 30, P. 75.)
18. Wound and bleeding of back, chest, side, or abdomen. (Fig. 31,P.76)
19. Wound and bleeding of lower part of back, abdomen, or buttocks. (Fig. 32, P. 77.)
20. Wound and bleeding of groin. (Fig. 33, P. 78.)
21. Wound and bleeding of crotch. (Fig. 34, P. 79.)
22. Wound and bleeding of hip. (Fig. 35, P. 80.)
23. Wound and bleeding of thigh. (Fig. 36, P. 81.)
24. Wound and bleeding of knee. (Fig. 37, P. 82.)

25. Wound and bleeding of leg. (Fig. 38, P. 84.)
26. Wound and bleeding of ankle or foot. (Fig. 39, P. 85.)
27. Wound and bleeding of foot. (Fig. 40, P. 86.)

A. (Each member of class demonstrate.)

Dislocations

102. Q. What is a dislocation?
A. A dislocation is the slipping of a bone out of its socket. (P. 91.)

103. Q. What other injury always accompanies a dislocation?
A. The ligaments about a dislocated joint are always torn. (P. 91.)

104. Q. What are the symptoms of dislocation?
A. The symptoms of dislocation are (1) deformity is present; (2) the head of the bone can usually be felt; (3) the limb in which the joint is dislocated may be either longer or shorter than the uninjured limb; (4) it is impossible to place the dislocated limb in its natural position; and (5) pain and swelling accompany it. (P. 91.)

105. Q. In general, how would you treat dislocation?
A. Apply dressings or splints in line of deformity, and treat for shock if necessary. (P. 92.)

106. Q. Is it proper for the first-aid man to reduce certain dislocations?
A. Yes. (P. 92.)

107. Q. What dislocations may the first-aid man reduce?
A. The first-aid man may reduce dislocations of the fingers, toes, and lower jaws. (P. 92.)

108. Q. How would you dress or treat the following injuries?
1. Dislocation of finger or thumb. (P. 96.)
2. Dislocation of lower jaw. (P. 92.)
3. Dislocation of shoulder. (Fig. 42, P. 95.)
4. Dislocation of elbow. (Figs. 43 and 43 A, pp. 94, 97, 98.)
5. Dislocation of hip. (Fig. 44, P. 100.)
6. Dislocation of knee. (Fig. 45, P. 101.)

A. (Each member of class demonstrates.)

Fractures

109. Q. What is a fracture?
A. A fracture is a broken bone. (P. 101.)

110. Q. Name the two kinds of fractures treated in first-aid work?
A. Simple and compound fractures. (P. 101.)

111. Q. Define a simple fracture?
A. A simple fracture is one in which the bone is broken but there is no open wound in connection with the fracture. (P. 101.)

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112. Q. Define a compound fracture?
A. A compound fracture is one in which there is an open wound communicating with the bone at the place of fracture. (P. 101.)

113. Q. What may happen when a simple fracture is improperly handled?
A. A simple fracture, by careless or improper handling, may be converted into a compound fracture. (P. 101.)

114. Q. How may a simple fracture be converted into a compound fracture?
A. A broken bone usually has sharp, saw-toothed edges, and a little twist may force it through the skin. (P. 101.)

115. Q. What are the symptoms of a fracture?
A. The symptoms of a fracture are (1) pain and tenderness at the point of fracture; (2) inability of patient to move the broken limb; (3) a grating sensation when the limb is handled; and (4) shortening or bending of the limb compared with a similar part of the uninjured side. (P. 102.)

116. Q. In general, what precautions should be taken in treating fractures? (P. 102.)
A. 1. Have the injured person lie down, and do not move him unless absolutely necessary until splints have been applied.
2. Place the limb in as nearly natural a position as possible by taking hold of the lower part of the limb and pulling it gently and steadily.
3. The under part of the limb should be supported on both sides of the break in order to steady the bone until splints have been applied.

117. Q. What special precautions must be taken when treating compound fractures? (P. 103.)
A. 1. If arterial bleeding is present, check with temporary pressure and apply a tourniquet tightly.
2. Apply a tourniquet loosely on the pressure point above the fracture if bleeding is not present.
3. Dress the wound with a sterile bandage compress and a cravat or triangular bandage.
4. If bones are protruding do not tie knots over compress.
5. Do not attempt to pull the limb into normal position if bones are protruding.

118. Q. What are the symptoms of a fracture of the skull?
A. Blood and serum may flow from the ears, and bleeding may be seen in the eyes, nose, and mouth; the victim may be conscious or unconscious. (P. 104.)

119. Q. What treatment is given for a fracture of the skull?
A. Place the head on a folded blanket or coat so that there is no pressure on the fracture. If a compound fracture exists, check the bleeding by placing a large bandage compress over the wound and tie

it firmly in place with the knot away from the wound. Cover the compress with a cravat bandage and treat for shock, but do not give stimulant. (P. 104.)

120. Q. How would you treat a fracture of the nose?
A. Apply a bandage compress, not too tightly, as for wound of the nose. (P. 104.)

121. Q. How would you dress and treat the following fractures?
1. Dressing for fracture of jaw. (P. 105.)
2. Dressing for fracture of collar bone. (P. 105.)
3. Dressing for fracture of arm. (Fig. 46, P. 107.)
4. Dressing for fracture of elbow. (Fig. 43, P. 98.)
5. Dressing for fracture of forearm. (Fig. 47, P. 110.)
6. Dressing for fracture of wrist. (Fig. 47, pp. 109, 110.)
7. Dressing for fracture of hand. (Fig. 48, P. 112.)
8. Dressing for fracture of shoulder blade. (P. 105.)
A. (Each member of class demonstrates.)

122. Q. What are the symptoms of fracture of the rib?
A. The symptoms of fracture of the rib are severe pain in breathing, tenderness over the suspected fracture, and inability to take a long breath because of the pain produced. (P. 111.)

123. Q. How would you treat and dress fracture of the rib? (Fig. 49, P. 114.)
A. (Each member of class demonstrates.)

124. Q. What are the symptoms of fracture of the spine or broken back?
A. The patient may be paralyzed from the waist down and will be unable to move his legs. Deformity may be present at the point where the spine has been fractured. (P. 113.)

125. Q. If the patient's back is bent at the point of fracture, what would be the procedure?
A. Do not try to straighten patient if his back is bent. Treat for shock, and send for the doctor. (P. 113.)

126. Q. What is the procedure for dressing a fracture of the spine if the patient is in a straight position? (Fig. 50, pp. 113,117.)
A. (Each member of class demonstrates.)

127. Q. What are the symptoms of fracture of the pelvis?
A. The patient complains of severe pain through the pelvis. (P. 116.)

128. Q. How would you dress and treat the following fractures?
1. Fracture of pelvis. (Fig. 51, P. 118.)
2. Compound fracture of thigh with arterial bleeding. (Fig. 52, P. 120.
3. Fracture of kneecap. (Fig. 53, P. 121.)
4. Fracture of leg or ankle. (Fig. 54, P. 122.)
5. Fracture or crushing of foot or toes. (Fig. 55, P. 124.)
A.(Each member of class demonstrates.)

Burns or Scalds

129. Q. Define a burn?
A. A burn is an injury caused by application of heat, either dry or moist. Chemicals, such as strong acids or alkalies, will also cause burns. (P. 124.)

130. Q. How should clothing be removed from a burn?
A. Remove all loose clothing, but do not try to remove clothing that adheres to the skin - cut around it. (P. 125.)

131. Q. Where and how should the dressings be applied after a burn or scald?
A. Exclude the air as quickly as possible by applying picric acid gauze moistened with steam or water to all burned surfaces. (P. 125.)

132. Q. Define picric acid gauze?
A. Picric acid gauze is a sterile gauze treated with 0.5 to 1 percent picric acid solution. (P. 125.)

133. Q. What precautions must be taken in treating burns? P. 125.)
A. 1. Don't bind burned surfaces together.
2. Don't apply bandages too tightly.
3. Don't fail to be aseptic.

134. Q. How would you treat and dress the following burns?
1. Burns of head, face, and neck. (Fig. 56, P. 127.)
2. Burns of the entire body above the waistline, including upper extremities, but not of the head, face, or neck. (Figs. 57-60,62, pp. 129-132, 136.)
3. Burns of entire body below the waistline, including lower extremities. (Fig. 62, P. 136.)
A. (Each member of class demonstrates.)

General

135. Q. What are bruises, and how are they caused?
A. Bruises are injuries to the tissues under the skin in which many of the small blood vessels may be broken. They are caused by falling or striking some part of the body or being struck by some object.(P.90.)

136. Q. What are the symptoms of bruises?
A. The symptoms of bruises are immediate pain from the injury to the nerves, swelling, black and blue marks, and, later, pain from pressure of the blood on the nerves, which is increased by movement. (P. 90.)

137. Q. What treatment would you give a bruise?
A. Apply an ice bag or cold wet towel and rest the injured part. (P. 90.)

138. Q. What is a strain, and how is it caused?
A. A strain is overstretching of the muscles. It may be caused by a sudden wrench, as in lifting heavy weights. In severe strains, small blood vessels may be broken. (P. 91.)

139. Q. How would you treat a strain?
A. Have the injured person rest, and rub the affected parts gently with alcohol and water or witch hazel. (P. 91.)

140. Q. What is a sprain, and how may it be caused?
A. A sprain is injury to a joint. It may be caused by violent stretching, twisting, or partial breaking of the ligaments about a joint. (P.91.)

141. Q. How would you treat a sprain?
A. Elevate the joint and place it at absolute rest, apply hot towels over the injury several times, place a cravat bandage firmly around the joint, and send the injured person to the doctor. (P. 91.)

142. Q. What are the symptoms of rupture?
A. A sharp stinging pain, sickness at the stomach, and a feeling that something has given way. A lump will appear in the groin. (P. 135.)

143. Q. What is the first-aid treatment for rupture?
A. Place the patient on his back with his knees well raised toward the abdomen and his legs supported with a pillow or folded jacket. Then place cloths wet in cold water over the hernia or lump, and send for the doctor immediately. Never force the patient to lie in a straight position. (P. 135.)

144. Q. How are poisons classified?
A. There are corrosive poisons and irritant poisons. (P. 137.)

145. Q. Name some of the corrosive poisons? (P. 137.)
A. 1. Hydrochloric acid.
2. Sulphuric acid.
3. Nitric acid.
4. Potash, caustic potash, or lye.
5. Soda or caustic soda.
6. Quicklime.
7. Strong ammonia water.

146. Q. How do corrosive poisons act on the system?
A. Corrosive poisons corrode or eat away the tissues with which they come in contact. (P. 137.)

147. Q. How may corrosive poisoning be recognized?
A. Corrosive poisoning may be recognized by the characteristic stain left on the lips or mouth, also by intense burning pain in the throat, gullet, and stomach. (P. 137.)

148. Q. What treatment should be given if the poisoning was caused by an acid?
A. Counteract the poison by giving the patient baking soda in solution, lime mixed with water, or dilute ammonia water. Soothe the corroded parts with oils, treat for shock, and give stimulants. (P. 138.)

149. Q. What treatment should be given if the poisoning was caused by an alkaline?
A. Counteract the poison by giving the patient diluted acids such as vinegar or lemon juice. Soothe the corroded parts with oils, treat for shock, and give stimulant. (P. 138.)

150. Q. Name some of the irritant poisons? (P. 138.)
A. 1. Bichloride of mercury or antiseptic tablets.
2. All the combinations of lead, zinc, and copper.
3. Rat poison, which usually is a compound of arsenic.
4. Matches or phosphorus.
5. Antimony.
6. Fly poison.

151. Q. How do irritant poisons act on the system?
A. Irritant poisons when swallowed irritate the throat and stomach and are absorbed in the stomach, thus poisoning the system. (P. 138.)

152. Q. How may irritant poisoning be distinguished from corrosive poisoning?
A. The symptoms are much the same for irritant poisoning as for corrosive poisoning except that the lips and mouth are not stained. (P. 138.)

153. Q. What treatment should be given for irritant poisoning?
A. For irritant poisoning make the patient vomit by means of an emetic or run finger down patient's throat. Give large quantities of water or salt water, mustard water, or alum water. Give white of eggs, oils, or Epsom salts. Treat for shock. Give stimulant freely. (P. 139.)

154. Q. What are the symptoms of alcoholic poisoning?
A. The symptoms of alcoholic poisoning are unconsciousness, partial or complete; face flushed or bloated, but sometimes pale; skin cool and moist; eyeballs red, but not insensitive to touch. There is no paralysis. (P. 139.)

155. Q. What is the treatment for alcoholic poisoning?
A. For alcoholic poisoning give an emetic, after which give strong coffee or aromatic spirits of ammonia. Apply heat around patient; rub extremities toward body to increase circulation. (P. 139.)

156. Q. How can you distinguish alcoholic poisoning from apoplexy?
A. In apoplexy the pupils of the eye are of unequal size, the eyeballs are insensitive, and paralysis is present. (P. 139.)

157. Q. Describe the treatment for apoplexy?
A. Have patient rest in dark room, keep head and shoulders high on pillows, apply cold cloths to head, give no stimulants, and give nothing that will cause vomiting. (If in doubt, treat for apoplexy.) (P. 140.)

158. Q. How may carbolic acid poisoning be recognized?
A. The bottle that contained the poison may be found. Patient will vomit and suffer great pain; there will be a strong odor of carbolic acid; lips, tongue, and mouth of patient will be burned white by pure acid and black by impure acid. (P. 140.)

159. Q. What is the treatment for carbolic acid poisoning?
A. Give vinegar, soapsuds, or raw whites of eggs in water. Produce vomiting; give a solution of Epsom or Glauber salts or sodium phosphate well diluted to hasten elimination of acid that may have entered the circulation; keep patient warm. For collapse, give strong coffee. Apply artificial respiration if breathing stops. (P. 140.)

160. Q. What precautions should be taken before loading a man on a stretcher?
A. Test the stretcher to make certain that it will bear the patient's weight. (P. 169.)

161. Q. On which side is it preferable to have the three men lift when loading on or unloading from stretcher?
A. On uninjured, unless location of injuries makes it desirable to lift from the injured side.

162. Q. In marching with stretcher, do all men keep in step? Why?
A. No, rear man breaks step to stop swinging of stretcher and jarring patient. (P. 177.)

163. Q. What is heat exhaustion?
A. Heat exhaustion is collapse from the effects of heat. (P. 185.)

164. Q. What are the symptoms of heat exhaustion?
A. The symptoms of heat exhaustion are the same as those indicating shock. (P. 185.)

165. Q. What is the treatment for heat exhaustion?
A. The treatment for heat exhaustion is the same as that for shock. (P. 185.

166. Q. What is the cause of sunstroke?
A. Sunstroke is caused by prolonged exposure to the rays of the sun or by excessive heat indoors. (P. 184.)

167. Q. What are the symptoms of sunstroke? (P. 184.)
A. 1. The patient is unconscious.
2. The face is red and flushed.
3. The skin is hot and dry.
4. No perspiration whatsoever is present.
5. The breathing is labored and of a snoring character.
6. The pupils are enlarged.
7. The pulse is slow and full.

168. Q. What first-aid treatment would you give for sunstroke? (P. 184.)
A. 1. Reduce the temperature of the body as quickly as possible.
2. Remove patient to a cool place.
3. Raise patient's head by placing on a folded coat or blanket.
4. Remove clothing.
5. Apply ice or cold water to head and body.
6. Rub extremities toward the heart to prevent shock.
7. Do not give stimulant.

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169. Q. How would you treat frostbites or freezing?
A. Rub the affected part with snow or cold water, after which use warmer water gradually. Give the patient a liquid stimulant. Do not expose the affected parts to heat immediately after they have been frostbitten or frozen. (P. 185.)

170. Q. What first-aid treatment would you use for snake bite? (P. 185.)
A. 1. Apply tourniquet just above the wound between the wound and the heart, tight enough to stop the circulation of the blood.
2. Open the holes made by the snake's fangs, cutting lengthwise of the limb.
3. Let the blood run from the cut, and at the same time rub the wound with the fingers to dislodge any of the poison that remains.
4. Loosen tourniquet every 20 minutes for 5 seconds.

171. Q. How should a patient be prepared for transportation, loaded on improvised or army-type stretcher, and transported? (P. 141, Figs. 91-94; pp. 176, 178-180.)
A. (Each member of class demonstrates.)